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ZNAČAJKE NEKIH WEB 2.0 ALATA

FEATURES OF SOME WEB 2.0 TOOLS

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Pregledni rad

Sažetak: *Opisane su mogućnosti nekih WEB 2.0 aplikacija i predloženi su neki načini njihove primjene u znanstveno-istraživačkom radu. Prosječnom korisniku su približene mogućnosti alata za mrežnu suradnju (eng. Online Collaboration). Istaknuti su glavni problemi koji se javljaju prilikom pretraživanja interneta koji je postao glavni izvor svih vrsta informacija. Prikazane su prednosti korištenja nekih WEB 2.0 aplikacija prilikom pretraživanja i razmjene podataka. Predstavljen je prijedlog podjele WEB 2.0 aplikacija prema njihovoj glavnoj namjeni. Navedene su besplatne značajke nekih WEB 2.0 aplikacija prema predloženoj podjeli,opisane su i njihove glavne karakteristike te su dane upute za korištenje. Spomenuti su i neki primjeri aplikacija u znanstveno-istraživačkom radu i praktičnoj nastavi.*

Ključne riječi: *WEB 2.0 alati, internet alati, primjena WEB 2.0 alata*

Review article

Abstract: *Options of some WEB 2.0 applications are described and some ways of their application in scientific work and research are proposed. An average user is provided with easier access to Online Collaboration tools. The main problems that appear while searching the Internet are highlighted, which has become the main source of all types of information. The advantages of using some WEB 2.0 applications in searching and sharing data are shown. A proposal of classifying WEB 2.0 applications according to their main usage is presented. Free features of some WEB 2.0 applications are listed according to the proposed classification. Furthermore, their main characteristics are described and instructions on how to use them are provided. Some examples of applications in scientific work, research and practical sessions are mentioned as well.*

Key words: *WEB 2.0 tools, Internet tools, application of WEB 2.0 tools*

1. INTRODUCTION

The development of the Internet as a global information base occurs very rapidly. The beginnings of the Internet were based on static contents that contained published information, whereat the user did not have the possibility to influence the content and by means of a direct information exchange via e-mail, forums and similar services. Standard websites, forums, chat locations and e-mails represent the oldest group of web tools, which is also called Web 1.0. The next step in its development was and still is directed toward the possibility that the computer and the network recognize the user and offer the option of interaction with the offered content.

By enriching the contents within Web 1.0 a large amount of information was created that are slowly accessed. Thereat this deficiency does not relate to the data transfer speed, nor the searching speed by which e.g. Google, Yahoo and other searching tools represent search results, but is manifested in the large number of search results. Internet users are often puzzled as the result of the amount of keyword search results. Upon entering keywords it is possible to obtain hundreds of thousands of results, as shown in Figure 1, exemplified by searching the term "*Ključne riječi*" ("Keywords").

Figure 1. Keyword search

A large number of search results points to the fact that many topics have already been covered in detail, which often puzzles scientists and professionals, but provides them with the possibility to invest more time in searching, classifying, zipping and finally utilizing information, upgrading and improving their knowledge.

Following the fact that a larger amount of valid information may be obtained from more than one source, the development of the Internet has offered the option of tracking what others write about the same topic almost at any moment. Web 2.0 represents a trend in the World Wide Web technology – it is based on social interaction that allows for the participation of users in creating the contents. Instead of data storage, two-way communication between the user and the computer and between the user and other users is implied. Studying Web 2.0 it may often be found that Web 2.0 is a social web. The meaning of this statement does not only relate

to entertainment applications such as Facebook, Twitter and many others, although these applications may be used for numerous purposes other than social interaction and entertainment. Their role is much larger. While in very young population social networks substitute social life, in somewhat older population, from students onwards, social networks are often used as channels for initiating social interaction and information exchange. Furthermore, social networks are used for advertising, event planning, recruiting participants and recently they have replaced news shows and newspapers to a large extent. Although Facebook and similar networks are mostly popular due to the number of users, they represent only one segment of Web 2.0. Therefore, this paper focuses more on other social applications that mostly differ according to their purpose. Web 2.0 tools include (Figure 2): social bookmarking tools, online notes taking, online collaboration tools, i.e. Internet tools for compiling and exchanging documents, such as Google Docs, Zoho, ThinkFree [1]; mental maps; block diagrams; online presentations; collaborative programming; online processing of photos, video and audio tracks; online polls, wikis and blogs [2]; networks for sharing various types of documents (SlideShare, Scribd, YouTube) and numerous other tools.

Figure 2. Web 2.0 applications

2. Online collaboration

The first question is: what is online collaboration? Online collaboration in real time is achieved when a group of people simultaneously work on a project, i.e. project documentation, activity planning, marketing etc. A group participating in online collaboration may cooperate in compiling a text, presentation, mental map, table or may even participate in online brainstorming, whereat they may be at different locations [3]. Online collaboration reduces transport costs, data transfer time, possibility of errors arising from different text versions. Participants are allowed to work on the same document, as if they were in the same room, whereat they may also use various chat or conference tools.

Online collaboration tools encompass a very wide area of application. In the chapter to follow tools for compiling documents are described.

2.1. Google Drive

Google Drive is an online service provided by Google to its users [4],[5], which is used for editing and sharing documents, calculation tables, presentations and forms. It contains the basic options of the Office package, so it can open and edit most of Office and OpenOffice formats, as well as show PDF files. At the beginning of 2012 Google launched a new service – Google Drive, which allows for storing information, synchronizing files on the computer and the possibility to work offline for some applications, i.e. the usage of the Internet is not required.

The main interface of Google Drive shown in Figure 3 contains the list of user's maps and files, allows for creating new maps and files, storing files made in desktop applications and sharing maps and files with other users. The main interface allows for browsing original files and converting them into the Google docs format. While saving .pdf files, optical character recognition (OCR) is possible.

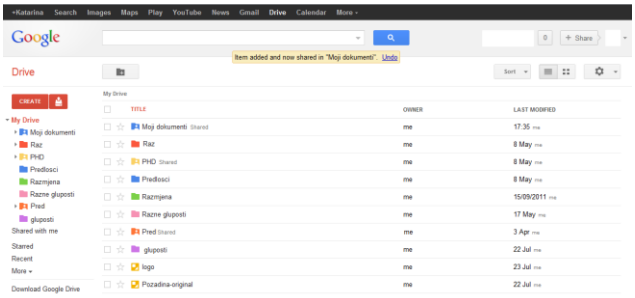

Figure 3. Google Drive

2.1.1. Google Document

Google Document is a textual processor that may be used both online and offline, and has the same basic options as the most well-known textual processor MS Word. Furthermore, it is possible to translate a text in some other language or use research, i.e. search the Internet while simultaneously working in a file.

Files may be created online or by means of a desktop application and retrieved in Google Drive. Files may be used privately, be shared with other users or be publicly published on the Internet.

2.1.2. Google Spreadsheet

Google Spreadsheet is an online table calculator that is very similar to and compatible with desktop applications MS Excel and Open Office Calc. It allows for the creation of calculation tables and graphs, connecting with other Google Spreadsheet tables, file sharing with specified users, public publishing and online collaboration of users in real time.

2.1.3. Google Drawing

Google Drawing is an online tool for making drawings. As other Google Docs tools, it offers the option of file sharing and online collaboration. It is used for publishing, sharing or downloading drawings made in

Google Drawing to the computer in.pdf, .svg, .png and .jpg format. Drawings may be inserted into other Google documents or may be used for creating blogs, wiki and other Internet contents.

2.1.4. Google Presentation

Google Presentation is a tool for creating presentations and allows for simple creation, sharing, online editing and online collaboration on presentation making. Presentations may be shared with a limited number of users, be published online or installed in websites. Finished presentations may be downloaded in.pdf, .pptx, or .txt format.

2.2. Other online collaboration tools

There are various tools on the market: Google Drive, Zoho Documents [6], Live Documents [7], ThinkFree Office [8]. Due to the similarity between these tools and the fact that Google is one of the most popular and well-known service providers, online collaboration applications offered by Google are described. Zoho Documents or Live Documents work on the same or very similar principle and with equal functionality that an average user will recognize as equal.

3. File sharing

File sharing refers to the distribution, i.e. allowing access to saved, stored information, such as computer programs, multimedia files, documents or electronic books. File sharing may be achieved by means of numerous available Internet services. While sharing, it is necessary to abide by intellectual property rights. They are useful while working on multilateral projects, as they eliminate the possibility of making an error while working on a wrong version of a document. Shared maps are quickly and simply synchronized automatically, and applications create back-up copies during simultaneous use of a document

Tools that are usually used are 4shared [9], Box [10] and Dropbox [11]. The advantage of these tools is sharing documents and maps with other users and synchronizing maps on different computers. The aforementioned services also offer mobile applications, so it is possible to connect with bases of free electronic books and mobile applications for reading electronic books.

4. Social Bookmarking

4.1. About Social Bookmarking

Social Bookmarking is an online practice of organizing and saving links and bookmarking them with keywords, marks or tags in order for such content to be available and searchable more easily for all Internet users [12].

Some of the most widely used WEB 2.0 applications for social bookmarking are Delicious [13], Diigo [14], Mendeley [15], Evernote [16] and many others that operate on a similar principle.

Along with the basic function of the social bookmarking tools, organizing and searching tags, services also offer tag list tracking, tracking other users, providing reviews, sharing activities on other social networks and online collaboration. Online collaboration provides several users with the possibility to create a common tag list, groups (interest groups) or simply share and access information. These additional options justify the name "social" and all these tools have the appearance of social networks. Due to this, contemporary users master their interfaces quite easily.

4.2. Delicious

Delicious [13] is a social bookmarking tool. In order for links to be saved, a profile is to be created (Figure 4). One may use existing profiles of some social networks or a new profile may be created, whereat it is necessary to use one's own e-mail address for the purpose of profile verification.

This tool is mostly used for online link saving. Links may be tagged, i.e. classified by marks (keywords), while tags may be saved in tag bundles.

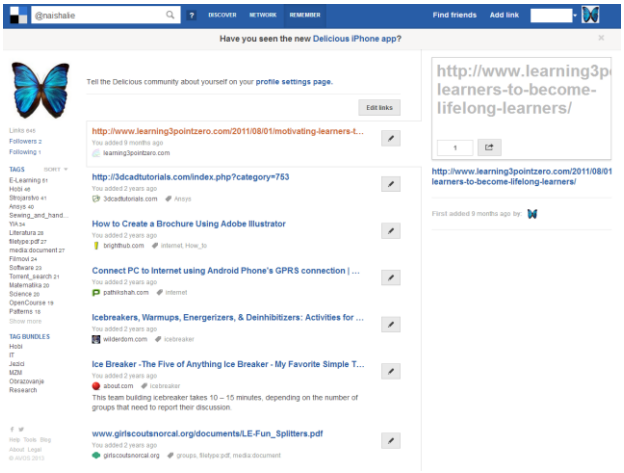

Figure 4. The appearance of Delicious profile

For most browsers it is possible to add a button by means of which the current website is directly saved as a link in an online base.

The Delicious service allows for link transfer from other services and social networks, as well as the synchronization of links found on the network with the link base within the browser.

One may browse one's own and other people's links using a search tool accesses via one's profile (Figure 4). The limitation of this tool is the fact that it searches invitations and website titles, but not the content within websites. One's own tags may be organized as a list or as a "Tag Cloud", and sorted by title or number of links that contain a certain tag.

4.3. Diigo

A popular tool for social bookmarking is Diigo [14]. This tool is mostly used for online link saving, but also as a social network for learning and research.

In this text only free options accessed upon profile creation are covered. The procedure of creating the profile is simple, and it is possible to access it with an existing profile of some well-known social networks.

Diigo allows for tagging and saving links on the web, sticky notes, tagging contents on a website, group work, link sharing and exchange, simple and rapid data organization, online access to databases and synchronization with browsers.

Along with creating one's own database, links saved by other users may be tracked. It is possible to search users. Options for searching by name or e-mail, tags used by a user, website and URL are provided, as well as advanced options.

For accessing one's own links one may use a web application, but it is also possible to install add-ons for several Internet browsers that simplify link saving, marking the text within websites and writing reminders.

There are also mobile applications by means of which users may save links and access their links via mobile iPad and iPhone devices and devices that use the Android system.

4.4. Mendeley

Mendeley [15] is a free online application for saving links and references, and also an academic social network that simplifies literature organization, online collaboration and tracking the latest trends in research.

In order to use Mendeley, a free profile is to be created (Figure 5). Creating the profile is very simple and may be carried out in only a few steps. Furthermore, Mendeley offers users to sign in via their Facebook profiles.

The web application allows for tracking the activities of other members, search through one's own reference collection, tracking popular and the latest articles, tracking group activities, creating own groups, adding users into groups etc. An add-on may be installed in some web browsers, which allows for saving data directly into one's database, without initiating the Internet application.

Figure 5. Mendeley Web profile

Along with the Internet service www.mendeley.com, Mendeley allows for the installation of the desktop application (Figure 6) that simplifies the access to data, saving links and research related files, research organization, tracking activities of other users and groups and data sharing.

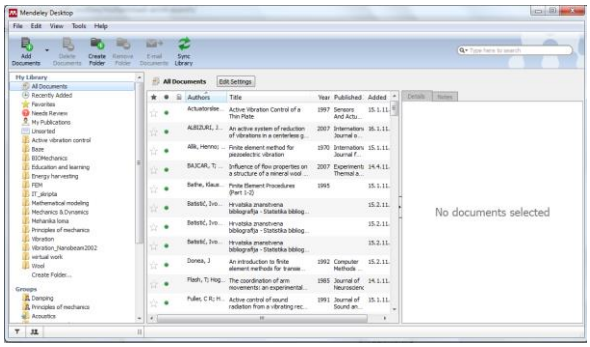

Figure 6. Mendeley desktop application

Upon the installation of the desktop application it is possible to install an add-on for textual processors. Mendeley is compatible with Windows Word 2003, 2007, 2010, Mac Word 2008, 2011, OpenOffice 3.2 and BibTeX. The installation procedure of the add-on for MS Word is initiated using the menu >Tools >Instal MS Word Plugin<.

Upon installation, the add-on for MS Word 2010 is shown on the toolbar >Reference< and is called Mendeley Cite-O-Matic (Figure 7).

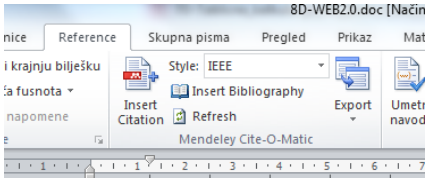

Figure 7. Mendeley Cite-O-Matic

In order to insert a reference, along with Word the Mendeley desktop application has to be opened as well. Before inserting a reference into the text literature is to be entered into the citation user base.

If there is the required literature in the base, press the >Insert Citation< button. The menu for searching own source base opens (Figure 8).

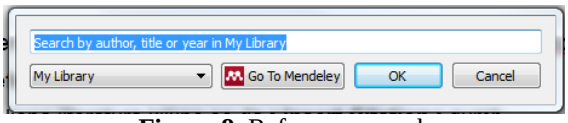

Figure 8. Reference search

Upon entering a part of the title, author or year, sources, i.e. references are offered (Figure 9). By selecting a reference a number is inserted [5].

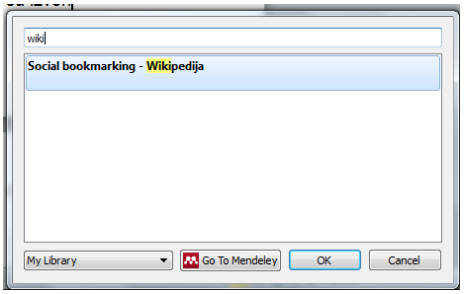

Figure 9. Inserting references

At the end of the text one should insert the literature list by using the >Insert Bibliography< button on the >Reference< toolbar.

5. Mind maps

A mind map is a type of diagram with a specific form that represents ideas or thinking in a certain manner [17]. One starts with the central main term which branches to keywords. While creating a map various symbols, letter size and colors are used in a clear, radial structure that allows for the connection of terms and making associative relations. Everybody develops their own map style. Mind maps have a wide range of application and are often used for business and educational purposes while writing down and analyzing facts, brainstorming, revising or as a mnemotechnics.

Mind maps may be created manually on a piece of paper, but for the purpose of making them various software programs have been developed, as well as Internet applications and services.

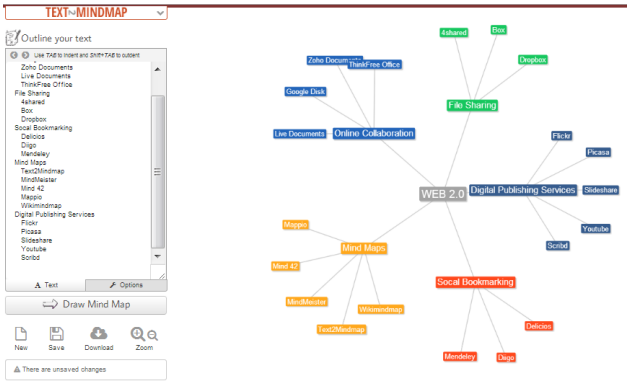

Figure 10. Text2Mindmap

Some of the numerous online applications are:

- Text2Mindmap (Figure 10) [18] transforms the text into a map and is easy to use, but has a very limited editor; it allows for saving finished maps on the disc in the .pdf format.
- MindMeister [19] is an online tool for creating mind maps; its advantages are simple usage, adding links into a topic and saving maps in Google Docs, i.e. Drive. Its disadvantage is limited design and the inability to add comments and photos.
- Mind42 [20] is an online tool for creating mind maps. It allows for the creation and sharing of maps, online collaboration, adding links, icons, pictures and comments. Maps may be stored online or on a disc in a form suitable for working in desktop applications for the creation of mind maps. Furthermore, Mind42 contains a base of finished mind maps of other users that may be used as templates.
- Mappio [21] is a base that contains thousands of finished mind maps that may be used for studying or as templates in online and desktop applications.
- Wikimindmap [22] is a tool that searches Wikipedia and structures the search results as a mind map.

6. Digital publishing services

Along with online collaboration services there are also digital publishing services and document sharing that function as social networks as well. As electronic readers and other devices for the reproduction of digital media are widely spread, digital publishing has become usual too. It may be used for educational purposes, technology exchange and modernization of teaching contents and methods. Digital services have adapted to the development of mobile devices and they provide users with applications for various mobile systems. Thereby the reproduction, i.e. the use of digital contents has become simpler. The features of the following services are:

- Flickr [23] and Picasa [24] – services for publishing pictures
- SlideShare [25] – service for publishing presentations
- Scribd [26] – service for publishing .pdf files

6.1. Flickr and Picasa

Flickr [23] and Picasa [24] are among the most well-known services for publishing pictures, and are maintained by Yahoo, i.e. Google. Searching publicly published items is possible even without having one's own profile, but for other functions it is necessary to create a profile. The creation of a profile allows for creating one's own private collections, sharing them with a limited number of users and public publishing of one's own items. Pictures may be tagged, commented or announced. Users may participate in interest groups and track publications of other users, exchange experiences and make connections. Photos may be graded and installed in websites. By sharing photos within a group it is easier to find an audience. Picasa and Flickr may be used for educational and learning purposes, promotion of one's work or specific events, as well as for acquiring information from other experts in the area of photography. These services also provide mobile applications that allow for the synchronization of albums on a mobile device with a web album.

6.2. SlideShare

SlideShare [25] is an online service used mostly for sharing presentations, but also .doc and .pdf files. It allows for publishing, creating collections of published documents and downloading public documents. Some items may easily be shared on various social networks. Individuals or organizations may use SlideShare as a marketing tool or literature source in various areas.

Presentations published on SlideShare may be installed in websites, shared privately and publicly, and users may participate in interest groups or track the work of other users.

Presentations may be searched by using a search tool (Figure 11), filtered by language, file type, browsed by popularity, categories etc.

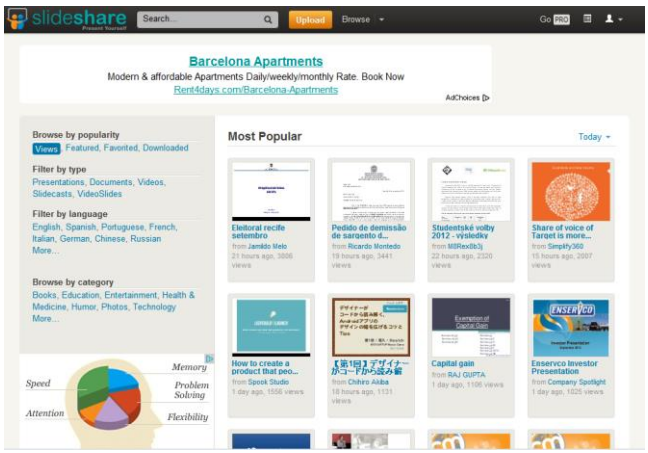

Figure 11. SlideShare search

6.3. Scribd

Scribd [26] is a social network used for publishing papers and reading papers that had already been published.

Via their profiles users may publish papers, track the activities of other members, publish what they had read, comment, evaluate papers and install published papers on websites.

Scribd allows users of similar interests to connect, mutually track their activities and share papers, which may be carried out via a profile shown in Figure 12.

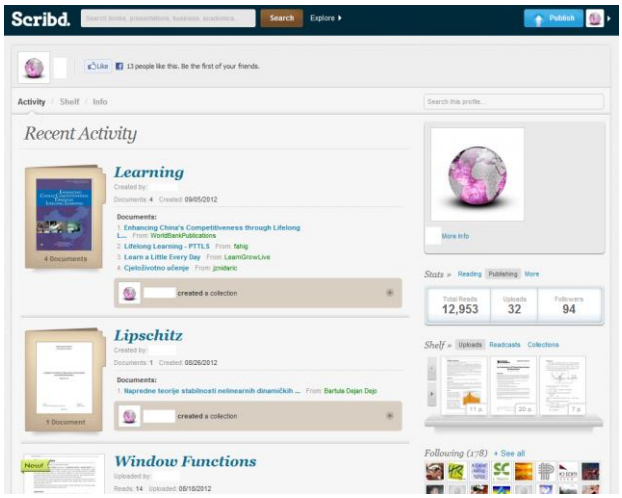

Figure 12. Scribd profile

On Scribd one may save files of various formats, but while saving them it is recommendable to determine the category by file type or topic. Active users may download papers saved on Scribd, providing they are free, and read them on various devices. As Scribd is assumed to be a large base contributed by all users, it is periodically required from users to save a document on the service in order to be able to further download files. It is not allowed to download without contributing. Book chapters published within the offer of publishing houses that have profiles on Scribd may also be accessed.

Scribd may be used for promoting one's work, publishing papers and connecting with users of similar interests. Users are allowed to publish activities and comment on other social networks.

In this base one may find professional papers in many areas, exam samples, reviewed and non-reviewed teaching materials in various languages, including Croatian.

7. CONCLUSION

Being familiar with online collaboration applications simplifies the access to information, classification and sharing of information, as well as cooperation between scientists and experts, as shown by a large number of people using these applications. This paper refers to a part of useful WEB 2.0 applications. WEB 2.0 tools are often free for private users and simple for use. They may be used for various purposes, e.g. for planning activities of youth or civil associations, where minimal costs and rapid information forwarding is a priority. They simplify distant cooperation on scientific projects, where it is necessary to collect suitable scientific information quickly. They speed up and simplify scientific networking for individuals both on the private and professional level. These tools may be used in classes for monitoring students' efforts and work on common projects at various and distant locations. In this manner higher speed and better efficiency is achieved, while the use of advanced tools make classes interesting for younger generations of students who are prone to everyday use of social networks.

5. LITERATURE

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[10] https://www.box.com (Available: 10.06.2013)
[11] https://www.dropbox.com (Available: 10.06.2013)
[12] http://hr.wikipedia.org/wiki/Social_bookmarking (Available: 06.09.2012)
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[26] http://www.scribd.com (Available: 10.06.2013)

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